

REMARKS

Claims 1-25 are pending in the present application. By this reply, claim 25 has been added. Claims 1, 8 and 17 are independent claims.

Corrected Formal Drawings

Corrected formal drawings (Figs. 1-4D) without the double lines are provided herewith in full compliance with 37 C.F.R. § 1.84. It is respectfully requested that the corrected formal drawings be approved and made a part of the record of the above-identified application.

35 U.S.C. § 103(a) Rejection:

Claims 1, 8 and 17 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicants' disclosed related art¹ in view of Kaneko et al. (U.S. Patent No. 6,433,842). This rejection, insofar as pertains to the presently pending claims, is respectfully traversed.

Regarding independent claim 1, the Examiner correctly acknowledges that Applicants' disclosed related art does not disclose the pixel electrode made of an amorphous transparent conductive film. To overcome this deficiency, the Examiner further relies on Kaneko et al. The Examiner cites column 5, lines

¹ It is uncertain whether Applicants' disclosed related art qualifies as prior art under 35 U.S.C. § 102. Nevertheless, Applicants will address the rejection(s) assuming that it is for the sake of the argument.

47-51 of Kaneko et al. for allegedly teaching the use of a pixel electrode made of an amorphous transparent conductive film.

However, at column 5, lines 44-47, Kaneko et al. discloses that the amorphous ITO may be used as a material of the pixel electrode *in the case where a multiple layered structure* is used for the drain lines. This layered structure is composed of three layers: an aluminum alloy, a second conductive layer which covers the aluminum alloy layer, and a third conductive layer formed under the aluminum alloy layer. Please see column 1, lines 36-43 of Kaneko et al. which discloses the first two layers (aluminum alloy layer and the second conductive (metal) layer) constituting a cladding structure or a two-layered structure. In other words, what Kaneko et al. actually teaches is that in the case where the three-layer structure is used for a drain line, then the amorphous ITO may be used as a pixel electrode. Kaneko et al. nowhere discloses the use of amorphous ITO as the pixel electrode when a drain electrode has a single-layer structure as in Applicants' invention.

Since Kaneko et al. clearly teaches that the use of amorphous ITO as the pixel electrode only be made in conjunction with a drain line having a three-layer structure, there is no motivation to modify Applicants' disclosed related art to render the claimed invention obvious.

Therefore, the references are not combinable and thus do not render obvious, *inter alia*:

a pixel electrode made of an amorphous transparent conductive film and connected to the drain electrode through the contact hole, the drain electrode having a single-layer structure

as recited in independent claim 1.

Regarding independent claim 8, Kaneko et al. does not disclose forming an amorphous ITO on a metal film functioning as a pad for the LCD device, since Kaneko et al.'s use of amorphous ITO is restricted to as the material of the pixel electrode in conjunction with a three-layer structured drain line. Thus, the references are not combinable and do not render obvious, *inter alia*:

a metal film formed on the substrate and functioning as a pad for the LCD device; and
an amorphous transparent conductive film formed on the metal film

as recited in independent claim 8.

Similar to independent claim 8, the references do not render obvious, *inter alia*:

forming, in each pixel region, amorphous transparent conductive films connected to the drain electrode, the gate pad and the data pad through the contact holes

as recited in independent claim 17, since Kaneko et al. nowhere discloses forming an amorphous transparent conductive film connected to the gate pad or the data pad.

Accordingly, independent claim 1, 8 and 17 are patentable over the applied references, and reconsideration and withdrawal of the rejection based on these reasons is respectfully requested.

Claims 2-5, 9-12 and 18-22 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicants' disclosed related art and Kaneko et al. as applied to claims 1, 8 and 17 above, and further in view of Tran et al. (U.S. Patent No. 5,135,581). Claims 6-7, 13-16 and 23-24 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over the Applicants' disclosed related art and Kaneko et al. as applied to claims 1, 8 and 17 above, and further in view of Maeda et al. (U.S. Patent Application Publication No. US 2001/0029054). These rejections, insofar as they pertain to the presently pending claims, are respectfully traversed.

As discussed above, Applicants' related art and Kaneko et al. do not render obvious at least the above-noted features recited in independent claims 1, 8 and 17. Further, neither Tran et al. nor Maeda et al. overcomes these deficiencies because none of these references teach or suggest these missing features of claims 1, 8 and 17. Particularly, Tran is merely relied on for teaching a process of forming a light transmissive electrically conductive composition at a certain temperature. Maeda et al. is merely relied on for teaching a particular thickness of a conductive thin film.

Thus, independent claims 1, 8 and 17 and their dependent claims (due to their dependency) are patentable over the applied references, and

reconsideration and withdrawal of the rejection based on these reasons is respectfully requested.

CONCLUSION

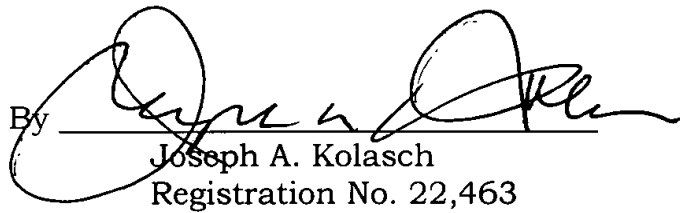
For the foregoing reasons and in view of the above clarifying amendments, Applicants respectfully request the Examiner to reconsider and withdraw all of the objections and rejections of record, and earnestly solicit an early issuance of a Notice of Allowance.

Should there be any outstanding matters which need to be resolved in the present application, the Examiner is respectfully requested to contact Esther H. Chong (Registration No. 40,953) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and further replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASH & BIRCH, LLP

By 
Joseph A. Kolasch
Registration No. 22,463

P.O. Box 747
Falls Church, VA 22032-0747
(703) 205-8000

^{on}
JAK/EHC/abs:lmh
Attachment: Seven (7) replacement drawing sheets